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Documentation PDF

Goals
To extend P1 by creating a Bloomberg Terminal out of scripting languages
To provide a method of bottom-up stock analysis that does not require reading or having access to financial documents


Code
Repository link: https://github.com/MChang360686/CSDS285-P2

Brainstorming Session
https://drive.google.com/file/d/13c9w3e4hjE4eo756OR1yZTMQVVFW9H-W/view?usp=share_link

1:25:00 - 1:26:00

How to Use
1) Create .env file and acquire API keys for the following API
    a) NewsAPI
    b) Polygon.io
2) Open file at http://eecslab-22.case.edu/~mmc175/p2/p2.php
3) Pull news from NewsAPI
    a) Run XAMPP
    b) Run News API tool
    c) Enter API key and query
    d) Copy and paste JSON results into "JSON into URLS and Titles"
4) Pull Stock Data
    a) Enter Query
    b) Select JSON format (optional)
5) Create Financial Graphs
    a) Copy and paste stock data in JSON format into "Analysis"
    b) Click buttons depending on desired chart
6) Date Rangefinder
    a) Enter number of days back you wish to find
7) Investopedia Searchbar
    a) Enter query
    b) Hit Enter

New Features
1. Stock Ticker symbol Modal
2. Stock Data can be a String or JSON
3. Date Rangefinder - find the date x days back i.e. the date 20 days ago
4. Charts by chart.js
   a. Bollinger Bands - is the stock overbought or not?
   b. Relative Strength Index - Is a stock due for a reversal or pullback?
   c. Moving Averages - What do we see if we smooth out our stock data?

Quality of Life improvements
1. Changed Stock Information layout
2. Improved security for presentations in PHP tool by adding API Key toggle as well as adding an obfuscation button to Notepad
3. NewsAPI to JSON feature can now take either single JSON objects or an array of objects
4. Ensure text areas clear themselves when adding new data
5. Cleaned up code

TODO
1. Ensure Chart math is correct
2. Improve Date Rangefinder

FAQ

Q: Why bottom-up stock analysis instead of top-down?
A: Because I assume that most people using this product will be just getting their feet wet analyzing stocks before buying and selling. While top-down and bottom-up approaches to stock analysis both have their pros and cons, I believe that bottom-up would be easier for students or people with my background. Additionally, ChatGPT suggested making charts with moving averages, RSI, and Bollinger Bands.

Q: Why make a separate tool for pulling JSON from NewsAPI? Wouldn't it be more convenient to either switch to a different API, buy the paid version, or write your own API?
A: Yes and no. Switching to a different API is an option, but most of the other options available require credit card information before you use them at all. Additionally, the paid version of NewsAPI is $449 2023 USD a month. Finally, writing your own API to forward JSON objects was considered, but since there was an already working component I decided to work on QOL improvements and new features instead. Theoretically, such a change could be done very easily.

Sources

https://github.com/rreichel3/US-Stock-Symbols

https://www.nasdaq.com/market-activity/stocks/screener